

Amdt. dated July 19, 2004
Reply to Office action of June 9, 2004

Serial No. 09/398,378
Docket No. BO999030
Firm No. 0036.0044

REMARKS/ARGUMENTS

Claims 1-36 are pending in the application. Claims 1, 7, 10, 13, 19, 22, 25, 31, and 34 have been amended. Reconsideration is respectfully requested. Applicants submit that the pending claims 1-36 are patentable over the art of record and allowance is respectfully requested of claims 1-36.

In paragraph 4, the Office Action objects to claim 1. Claim 1 has been amended to overcome the objection.

In paragraph 6, the Office Action rejects claims 1-5, 8-17, 20-29, and 32-36 under 35 U.S.C. §102(e) as being clearly anticipated by Saito et al. (U.S. Patent No. 6,578,006). Applicants respectfully traverse these rejections.

If the Examiner maintains the rejection of these claims, Applicants request that the Examiner cite to specific sections of the cited references that disclose the claim requirements. See, 37 CFR 1.104(c)(2) ("When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable"); MPEP 707, pg. 700-100.

With Applicants' invention, when the status column of a job is updated, then a trigger fires (event-driven) and executes a user defined function. This user defined function accesses a mapping to see which work process should work on a job using information (e.g., job ID) in a job status table. Each work process will work on the jobs "sent" to it by the user defined function. The work process gets job information from the job status table, processes the job, and updates the status of the job in the jobs table. Thus, each work process is independent of all other work processes in a workflow, and the user defined function/database has the information needed to process a job to completion. Work processes may be added, removed or changed by

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changing the mapping. Therefore, the invention provides an event-driven system in which, when one work process is done, the next work process is given the job immediately, without a need for a scheduler process polling the database at intervals to see which jobs need to go to which work process and without polling done by the work processes to see if they have any jobs to work on.

In particular, Applicants' Specification at page 10, lines 25-27 describes that the input and output statuses defined for the work processes define the flow of jobs to and from the works. Also, a job status table is a data structure that describes the jobs.

The Saito reference describes that an event management unit acquires an unprocessed event from an even queue, checks for a document in a document management database, and calls a task management unit if the document is located. (Col. 7, lines 29-44; FIG. 6) The task management unit searches a work management table for a particular row and performs different processing depending on whether the argument-specific event type is "complete event" or "start event" (Col. 7, line 64-Col. 8, line 9; FIGs. 7, 8).

If the event type is "complete event", the task management unit sets "complete" in the task column of the searched row, calls event deletion processing, searches the work management table, and acquires a list of one or more task status values (Col., 8, lines 11-20). If all the task status values are "complete", then the task management unit calls the phase transition processing of the workflow management unit (Col. 8, lines 21-29). If the event type is "start event", the task management unit sets "execute" in the task column of the searched row (Col., 8, lines 30-33). The task management unit acquires a list of combinations of the task, input document form, and document form, searches the obtained list for a particular combination, and calls the even addition processing of the event management unit (Col. 8, lines 34-48). The task management unit then calls the task notification processing (Col. 8, lines 49-50; FIG. 10).

The task notification unit creates a notification message with a link to a document and sends a notification message to a task execution user (Col. 9, lines 45-61). The Saito patent describes that the work management method manages a project executed by individuals

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(Abstract). The Saito patent applies to patent processing, executed by an inventor, where the inventor performs the task of writing a patent specification during a patent application work, the task of deciding whether to request an examination during a consideration of examination request, and the task of checking whether or not a patent is infringed during infringement checking (Col. 1, lines 42-50). Thus, Applicants submit that the notification message is sent to an individual to perform task processing.

Claim 1 describes generating, with a computing system, a signal when status for the job is changed from a first status to a second status in a job status table, wherein each status for the job is associated with a single work process for processing the job among multiple work processes, wherein each status refers to a next process to be performed by the single work process associated with the status, wherein each work process is an application program, and wherein the job status table identifies jobs on which work is performed. That is, each status describes a stage of processing in a work flow. For example, the status of a job may be ready, print, format, etc. (See, for example, Applicants' FIG. 2 and Specification at page 4, lines 25-27). Also, each work process that is associated with one status is an application program. (See, for example, Specification at page 5, lines 9-10). Each job identified in the job status table comprises an entity on which work is performed under computer operation such as processing data, generating output materials, forwarding data to another location for further processing, printing, working on a material or device, etc. (See, for example, Specification at page 5, lines 3-7). Thus, the job status table identifies the jobs to be processed by multiple work processes. On the other hand, the Saito patent uses multiple tables, rather than one job status table. The use of a queue, a work management table, and a task definition table do not anticipate Applicants' claimed use of the job status table. Moreover, the claimed invention describes jobs processed by work processes (application programs), which is not anticipated by the Saito patent's description of tasks that are performed by individuals.

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In addition, claim 1 describes identifying a mapping, with a user defined function, a single work process for processing the job based on the second status, wherein the second status is associated with the identified work process. In the Saito patent, an inventor performs the task of writing a patent specification during a patent application work, the task of deciding whether to request an examination during a consideration of examination request, and the task of checking whether or not a patent is infringed during infringement checking. Thus, tasks are associated with a human individual rather than an application program. Also, the inventor of the Saito patent performs all tasks of a patent process, which does not anticipate, that a single work process processes a job based on its status.

Claim 1 also describes notifying, with the user defined function, the work process associated with the second status that one job had its status changed to the second status in response to the signal. First, the Saito patent describes notifying a user, which does not anticipate notifying a work process (application program). Second, the Saito patent describes a notification message with a link to a document, which does not anticipate notifying that a job had its status changed.

Claim 1 describes processing, with the work process, the job that had its status changed from the first status to the second status, wherein the work process queries the job status table to identify the job having the second status which is associated with that work process and to obtain job information. On the other hand, the Saito patent describes that a user processes tasks, rather than a work process. Also, the Saito patent does not describe that the user queries any tables to identify a task and to obtain task information.

Claim 1 describes modifying, with the work process, the status of the job in the job status table after completing the processing of the job, wherein each work process is associated with one input status and one or more output statuses (e.g., see Applicants' Specification at page 5, lines 25-26), wherein the modified status of the job is associated with another work process, and wherein the mapping may be modified to perform at least one of adding, removing, and modifying statuses associated with work processes to modify an order of the job processing (e.g.,

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see Applicants' Specification at page 12, lines 3-5). Again, in the Saito patent, the user performs tasks, but the user does not change a status of a task. Instead, the Saito patent describes that a task management unit changes an event type to "complete" or "execute" in a task status column. Also, the Saito patent does not describe that the user who performs tasks is associated with one input and one or more output statuses - instead the inventor of the Saito patent example performs all tasks.

Thus, claim 1 is not anticipated by the Saito patent. Independent claims 13 and 25 are not anticipated by the Saito patent for at least the same reasons as were discussed with respect to claim 1.

Dependent claims 2-5, 8-12, 14-17, 20-24, 26-29, and 32-36 incorporate the language of independent claims 1, 13, and 25, respectively, and add additional novel elements. Therefore, dependent claims 2-5, 8-12, 14-17, 20-24, 26-29, and 32-36 are not anticipated by the Saito patent for at least the reasons discussed with respect to independent claims 1, 13, and 25.

Also, the Office Action indicates that for claim 10, FIG. 5 and Col. 7, lines 21-25 teach that a document is input in one format and is later used to output a document in another format. Claim 10 describes that the job comprises a data file, wherein at least one work process processes the data file to alter its format and at least one other work process processes the data file in the altered format to transmit the data file to an output device. The cited portion of the Saito patent describes that in a document link list field, document links are divided into two types of links, a link to the document required for task execution and a link to the document form of the document created as a result of task execution (Col. 7, lines 21-25) and describes a task screen (FIG. 5). Applicants submit that the cited portion of the Saito patent does not describe that tasks are performed by work processes, but by users. Also, the description of links does not show teach that a data file is altered by one work process and transmitted to an output device by another work process.

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In paragraph 8, the Office Action rejects claims 6, 7, 18, 19, 30, and 31 under 35 U.S.C. §103(a) as being unpatentable over Saito et al. (U.S. Patent No. 6,578,006). Applicants respectfully traverse these rejections.

The Examiner indicates that the Saito patent does not expressly teach what occurs when an error status is detected. The Examiner takes Official Notice that it is well-known in the art of workflow processing to monitor for error conditions and make corrections accordingly, and the Examiner asserts that it would have been obvious to enhance Saito's invention to detect error conditions and correct these errors accordingly. Applicants traverse. Applicants are claiming a particular technique for error processing that is not taught or suggested by any prior art.

Moreover, Applicants submit that independent claims 7, 19, and 31 are not taught or suggested by the Saito patent. In particular, the Saito patent does not teach or suggest generating a signal, with a computing system, when status for the job is changed from a first status to a second status in a database table, wherein each status for the job is associated with a single work process for processing the job among multiple work processes, wherein each status refers to a next process to be performed by the single work process associated with the status, wherein each work process is an application program, and wherein the database table identifies jobs on which work is performed; identifying using a mapping, with a user defined function, a single work process for processing the job based on the second status, wherein the second status is associated with the identified work process; notifying, with the user defined function, the work process associated with the second status that one job had its status changed to the second status in response to the signal; processing, with the work process, the job that had its status changed from the first status to the second status, wherein the work process queries the database table to identify the job having the second status which is associated with that work process and to obtain job information; and modifying, with the work process, the status of the job in the database table after completing the processing of the job, wherein each work process is associated with one input status and one or more output statuses, wherein the modified status of the job is associated with another work process, and wherein the mapping may be modified to perform at least one of

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adding, removing, and modifying statuses associated with work processes to modify an order of the job processing.

For example, by teaching that a user performs tasks, rather than a work process (application program), the Saito patent teaches away from the subject matter of claims 7, 19, and 31. Also, by using multiple tables, rather than a single job status table, the Saito patent teaches away from the subject matter of claims 7, 19, and 31. Moreover, the Saito patent describes that a user is sent a task notification with a link to a document and the user may then process the document, which teaches away from a work process querying the job status table to identify the job having the second status which is associated with that work process and to obtain job information. In the Saito patent, there is no need for the user to query a table for information. In the Saito patent, the user performs tasks, but the user does not change a status of a task. Instead, the Saito patent describes that a task management unit changes an event type to "complete" or "execute" in a task status column, which teaches away from the claimed work process modifying the status of a job.

Claims 1, 13, and 25 are not taught or suggested by the Saito patent for at least the same reasons as were discussed with respect to claims 7, 19, and 31.

Dependent claims 6, 18, and 30 incorporate the language of independent claims 1, 13, and 25, respectively, and add additional novel elements. Therefore, dependent claims 6, 18, and 30 are not taught or suggested by the Saito patent for at least the reasons discussed with respect to independent claims 1, 13, and 25.

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Conclusion

For all the above reasons, Applicant submits that the pending claims 1-36 are patentable over the art of record. Applicants have not added any claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0466.

The attorney of record invites the Examiner to contact her at (310) 553-7973 if the Examiner believes such contact would advance the prosecution of the case.

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